



## Riverside Engineering

*Metals recycling, design, fabrication & services*

Date: July 29, 2015

Pat Christopher  
Excel Recycling, LLC.  
37 Charlotte White Road  
Westport, MA 02790

Dear Pat,

The recycling industries "Best Practice" for reduction of shredder particulate emissions and explosion control is water injection into the shredder. Unfortunately adding too much water into the shredder reduces the recovery of non-ferrous metals from the ASR stream (auto shredder residue). Riverside Engineering's H2Pro water injection system provides for a reliable system which is computer controlled and easily adjustable system to compensate for dry dusty material or wet/rainy days.

The mode of operation is simple and reliable. Water is injected into the shredder through air mixing venturi nozzles in a finely atomized state. A significant amount of the injected water is turned into steam, effectively inerting the entire shredding chamber, displacing free oxygen and encapsulating nearly all of the light dust knocked loose by the shredding action. The majority of the moistened dust particles are then discharged out of the shredder with the shredded material, the other moistened dust particles that exit the shredder in the steam quickly precipitate out in the immediate area around the shredder.

The quantity of water being injected into the shredder is controlled by a PLC (programmable logic controller/computer) which monitors the main motor load, as the load on the shredder drive motor goes up, so does the amount of water being injected into the shredder. Typical water consumption rates range from 5 – 8 gallons of water per ton of ferrous scrap shredded. When operated properly all of the injected water will either be turned into steam or absorbed into the ASR, generating no process water.

If you have any questions about the operation or use of the H2Pro water injection system, please don't hesitate to give me a call at (210) 227-9090.

Best regards,  
Randy Brace  
Riverside Engineering